

L5 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:482600 CAPLUS
 DOCUMENT NUMBER: 127:188071
 TITLE: Influence of L-sorbose and the cell-wall-lytic
 Micrococcus sp. on the major polymers of *Aspergillus
 fumigatus*
 AUTHOR(S): El-Shafei, Hanaa A.
 CORPORATE SOURCE: Microbial Chemistry Laboratory, National Research
 Center, Cairo, Egypt
 SOURCE: Polymer Degradation and Stability (1997), 57(2),
 151-156
 CODEN: PDSTDW; ISSN: 0141-3910
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB L-Sorbose, a sugar known to cause paramorphogenesis in fungi, was tested for its effect on the growth, morphol. and major cell-wall constituents of the pathogenic fungus *Aspergillus fumigatus*. L-Sorbose induces colonial paramorphs in *Asp. fumigatus*. The colonial growth of the fungus was restricted and the hyphae showed increased branching and septation. Such effects were more pronounced as the concn. of L-sorbose in the medium was increased. Cultures of colonial paramorphs transferred to the original medium showed normal growth. The specific growth rate and yield of this strain were reduced by 11.5 and 21%, resp., on addn. of 1% (w/v) sorbose to the medium. The addn. of 0.5% sorbose to *A. fumigatus* cultures challenged with *Micrococcus* sp. enhanced β -glucanase activity and cell-wall-lytic activity, but reduced the chitinase activity. After 48 h incubation the chitinase activity started to increase accompanied by a decrease in the glucanase and cell-wall-lytic activities, reaching a max. after 4 days incubation. *A. fumigatus* cell walls isolated from the mycelium grown in the presence of 0.5% sorbose exhibited an increased **glucosamine**/glucose ratio compared with that of normal growth. The growth inhibition by L-sorbose was aggravated when *A. fumigatus* culture was challenged with *Micrococcus* sp. Cell walls isolated from mycelia grown in a mixed culture supplemented with sorbose showed higher glucosamide/glucose ratio than that obtained from mixed cultures. The variation in the **chem.** compn. of the cell wall is discussed.

L5 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1976:519336 CAPLUS
 DOCUMENT NUMBER: 85:119336
 TITLE: Perennation of *Sphaerotheca mors-uvae* as cleistothecia
 with particular reference to microbial activity
 AUTHOR(S): Jackson, G. V. H.; Gay, J. L.
 CORPORATE SOURCE: Dep. Bot., Imp. Coll., Sunninghill/Berks., UK
 SOURCE: Transactions of the British Mycological Society
 (1976), 66, Pt. 3, 463-71
 CODEN: BMSTA6; ISSN: 0007-1536
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Cleistothecia and assocd. mycelia of *S. mors-uvae* at different stages of development and overwintering have been examd. by **chem.** anal., decompn. by microorganisms and enzymes, and by electron microscopy. **Chem.** anal. of purified cell walls showed that immature and mature stages contain 35 and 26% hexosan and 31 and 22% **glucan**, resp. Galactose and mannose were the only other monosaccharides found in hydrolyzates by gas-liq. chromatog. Hydrolyzates of walls contained about 10% hexosamine, most of which was N-**acetylglucosamine**. Melanin, some of which was probably assocd. with **glucosamine** and protein, comprised 18-20% of the heavily pigmented mature wall. **Chitin-degrading** microorganisms grew on media contg. cell walls from immature and mature samples but only cleared media from the former. Chitinase and glucanase released the expected amts. of N-

acetylglucosamine and glucose from immature cell walls but unless they were homogenized by ultrasound, mature walls yielded reduced amts. of N-acetylglucosamine.

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L1	27278	S	?GLUCOSAMINE
L2	1632	S	L1 AND CHITIN
L3	120	S	L2 AND GLUCAN
L4	4	S	L3 AND DEGRADING
L5	2	S	L4 AND CHEMICALLY